**Mixed Practice Worksheet Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Factoring:** | GCF | Trinomials w/  Coeff. = 1 | Trinomials w/  Coeff. ≠ 1 | Factor by  Grouping | Factor Polynomials of higher degrees (cubes, 4th power) |

**Factor the following (use any method above) and then solve for X:**

1. 25x4 – 9 = 0 2. 3x2 – 6x + 3 = 0

3. x3 – 343 = 0 4. x3 + x2 – 4x – 4

5. 3x3 – 2x2 – 9x + 6 = 0 6. x2 – 6x + 8 = 0

7. 36x4 – 9x2 = 0 8. 2x3 – 3x2 – 10x + 15 = 0

9. x4 – 1 = 0 10. 6x2 + 15x = 0

11. x2 + 13x + 42 = 0 12. 3x2 + 11x + 6 = 0

13. 2x3 – 32x = 0 14. 48x4 – 4x3= 0

15. 12x4 + 12x2 – 24 = 0 16. 2x2 – 5x – 12 = 0

17. x2 + 10x + 25 = 0 18. 3x3 + 375 = 0

19. x3 – 8 = 0 20. 8x2 – 100 = 0